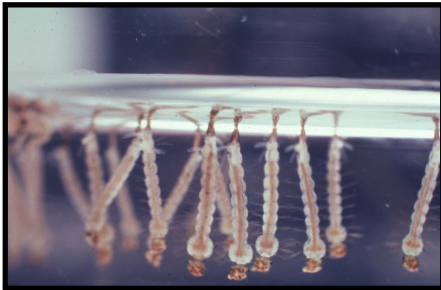


"Bug of the Month"

The fourth National Mosquito Control Awareness Week is the week of 23 – 29 June 2002. This is a declaration of the American Mosquito Control Association (AMCA), an international organization of over 1,900 public health professionals. The goal of this week is to educate the general public about the significance of mosquitoes in their daily lives and the important service provided by mosquito control workers throughout the United States and worldwide. This issue of the "Bug of the Month", is devoted to the mosquito.

WHAT DO THEY LOOK LIKE? The word mosquito is of North American origin and probably comes from the Spanish word for mosquito, "musketas", or "little fly". Mosquitoes go through four separate and distinct stages of development: egg, larva, pupa, adult. Eggs are laid singly or together in rafts that float of the surface of water. Some lay their eggs in damp soil that will be flooded with water. Eggs hatch in about 48 hours. The larva lives in the water, but must come to the surface to breath. Most larvae have a siphon tube for breathing and hang from the water surface. Anopheles larvae do not have a siphon and lay parallel to the surface and breath through an opening. Larvae feed on microorganisms and organic matter in the water. The pupal stage is a resting stage, although the pupa can move around in the water and need contact with the surface to breath. The adult stage emerges and rests on the water surface to dry. The female adult may require a blood meal in order to gain enough protein for egg production. Male mosquitoes feed on flower nectar.



WHAT DO THEY DO? Mosquitoes can be an annoying, serious problem to man. They cause more human suffering than any other organism. They interfere with work and spoil hours of leisure time. Attacks on farm animals can cause loss of weight and decreased milk production. Some mosquitoes are capable of transmitting disease such as malaria, yellow fever, dengue fever, filariasis, and encephalitis (SLE, WEE, LAC, JE, EEE and West Nile virus (WNV) to humans and animals. More than one million people die from mosquito-borne diseases every year.

Aedes mosquitoes are painful and persistent biters. They search for a blood meal early in the morning, at dusk (crepuscular feeders) and into the evening. Some are diurnal (daytime biters) especially on cloudy days and in shaded areas. They usually do not enter dwellings and they prefer to bite mammals like humans. *Aedes* mosquitoes are strong fliers and are known to fly many miles for their breeding sites.

Culex mosquitoes are painful and persistent biters and prefer to bite at dusk and after dark. They will readily enter dwellings for a blood meal. Domestic and wild birds are the preferred host over man, cows, and horses. *Culex* mosquitoes are generally weak fliers and do not travel far from their breeding sites. *Culex* mosquitoes live only for a few weeks during the summer. Adults emerging in late summer hibernate until spring.

Culiseta mosquitoes are moderately aggressive biters, attacking in the evening hours or in shade during the day. *Psorophora*, *Coquillettidia*, and *Mansonia* mosquitoes are becoming more pestiferous as their natural habitats are invaded by ever expanding human populations. *Anopheles* mosquitoes are the only mosquito that transmit malaria to man.

MORE QUESTIONS? Please do not hesitate to give your "Bug Docs" a call at comm.: (360) 315-4450, DSN: 322-4450 or you can e-mail us at MEI@ndvecc.navy.mil.

MANAGEMENT. The method to control mosquitoes is through the use of repellents and space sprays. All insect repellents must have the active ingredient on the label. Products with DEET or a pyrethroid are most effective.

- Oil of citronella is an effective space repellent outdoors under windless conditions. Oil of citronella is the active ingredient in many candles, torches, and coils that may be burned to produce a smoke that will repel mosquitoes.
- Space sprays may be used to kill mosquitoes present at the time of treatment. The major advantage of space sprays is immediate knockdown, quick application, and relatively small amounts of material are required. Space sprays will not control mosquitoes over long periods.
- Most persistent mosquito problems require an organized effort over large areas. Many States, cities and Counties have mosquito control organizations. Methods available to these organizations include both permanent and temporary measures. Permanent measures include impounding water, ditching and draining mosquito breeding areas. Temporary measures include treating breeding to kill larvae and aerosol spraying by ground or aerial equipment to kill adult mosquitoes.

Some helpful actions for around the home include:

- Destroy or dispose of tin cans, old tires, buckets, unused plastic swimming pools or other containers that collect and hold water.
- Clean debris from rain gutters and remove any standing water under or around structures or on flat roofs.
- Change water in bird baths and wading pools at least once a week and stock ornamental ponds with top feeding minnows. Ornamental pools may be treated with biological insecticides such as *Bacillus thuringiensis* var. *israelensis*.
- Fill or drain puddles, ditches and swampy areas, and either fill, drain or remove tree holes.
- Eliminate seepage from cisterns, cesspools, and septic tanks.
- Eliminate standing water around animal watering troughs.
- Irrigate lawns and gardens carefully to prevent water from standing for several days.